

<b>St. Joseph Hospital</b>	)	<b>Departmental</b>
<b>Penobscot County</b>	)	<b>Finding of Fact and Order</b>
<b>Bangor, Maine</b>	)	<b>Air Emission License</b>
<b>A-237-71-J-M/R</b>	)	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

## **I. REGISTRATION**

### **A. Introduction**

St. Joseph Hospital of Bangor, Maine has applied to renew their Air Emission License permitting the operation of four #5 fuel-burning boilers and two emergency diesel generators used for back-up electricity.

St. Joseph Hospital has requested to increase the annual facility fuel use limit for their boilers from 200,000 gallons to 250,000 gallons.

### **B. Emission Equipment**

St. Joseph Hospital is authorized to operate the following air emission units:

#### **Fuel Burning Equipment**

<b><u>Equipment</u></b>	<b><u>Maximum Capacity (MMBTU/hr)</u></b>	<b><u>Fuel Type, % Sulfur</u></b>	<b><u>Maximum Firing Rate (gal/hr)</u></b>	<b><u>Stack #</u></b>
Boiler #1	5.3	#5, 0.7%	35	1
Boiler #2	5.3	#5, 0.7%	35	1
Boiler #3	10.5	#5, 0.7%	70	1
Boiler #4	10.5	#5, 0.7%	70	1
Emrg diesel gen #5	3.7	diesel, 0.05%	27	1
Emrg diesel gen #6	5.6	diesel, 0.05%	41	2

### **C. Application Classification**

The application for St. Joseph Hospital includes an increase in the allowable annual fuel limit for the boilers. The modification of a minor source is considered

a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as given in Maine’s Air Regulations. This modification is determined to be a minor revision and has been processed as such. Therefore, the license is considered to be a renewal plus a minor revision.

## **II. BEST PRACTICAL TREATMENT (BPT)**

### **A. Introduction**

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas. BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

### **B. Boilers #1, #2, #3 and #4**

St. Joseph Hospital operates four oil-fired boilers to provide hospital building heat and hot water. Boilers #1 and #2 have design heat input capacities of 5.3 MMBtu/hr each and Boilers #3 and #4 have design heat input capacities of 10.5 MMBtu/hr each. All four oil-fired boilers were installed in 1963. They are therefore not subject to New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart Dc, for boilers with heat inputs of 10 MMBtu/hr or greater and constructed after June 9, 1989.

BPT for Boilers #1, #2, #3 and #4 is the following:

- The firing of #5 fuel oil with a sulfur content not to exceed 0.7% by weight;
- PM emission limits regulated by MEDEP Chapter 103 and PM<sub>10</sub> limits derived from the PM limit;
- NO<sub>x</sub> emission limits based on data for boilers of similar sizes and ages;
- CO and VOC emission limits based upon EPA AP-42 data dated 9/98 for fuel oil-fired boilers; and
- Visible emissions from the combined stack of Boilers #1, #2, #3 and #4 (stack #1) shall not exceed 30% opacity on a 6 minute block average, except for no more than 3 six minute block averages in a 3 hour period.

### **C. Emergency Generators #5 and #6**

St. Joseph Hospital operates two emergency diesel generators to supply electricity to their computer system, emergency lighting in the building, and boiler feed water pumps in the event normal electrical service is interrupted. Emergency Generators #5 and #6 have heat input rates of 3.7 MMBtu/hour and 5.6 MMBtu/hr, respectively.

BPT for Emergency Generators #5 and #6 is the following:

- Firing 0.05% sulfur diesel fuel;
- Limiting each generator to 150 hours of operation per 12-month rolling year;
- PM emission limits regulated by MEDEP Chapter 103, and PM<sub>10</sub> limits derived from the PM limits;
- NO<sub>x</sub>, CO and VOC emission limits based upon EPA AP-42 data dated 10/96 for diesel-fired internal combustion engines; and
- Visible emissions from the stack of Emergency Generator #5 (stack #1) shall not exceed 30% opacity on a six minute block average basis, except for no more than 3 six minute block averages in a 3 hour period. Visible emissions from the stack of Emergency Generator #6 (stack #2) shall not exceed 30% opacity on a 6 minute block average, except for no more than 2 six minute block averages in a 3 hour period.

D. Annual Facility Emissions

St. Joseph Hospital shall not exceed 250,000 gallons of #5 fuel oil with a sulfur content not to exceed 0.7% by weight to be fired in Boilers #1, #2, #3 and #4 on a 12-month rolling total basis. Each Emergency Generator shall not operate for more than 150 hours per 12-month rolling year. The following emissions shall not be exceeded on a 12-month rolling total:

**Total Allowable Annual Emission for the Facility**  
(used to calculate the annual license fee)

<b>Pollutant</b>	<b><u>Tons/year</u></b>
PM	2.33
PM <sub>10</sub>	2.33
SO <sub>2</sub>	13.8
NO <sub>x</sub>	11.9
CO	1.25
VOC	0.17

**III. AMBIENT AIR QUALITY ANALYSIS**

**St. Joseph Hospital  
Penobscot County  
Bangor, Maine  
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According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the total facility emissions, St. Joseph Hospital is below the emissions level required for modeling and monitoring.

**ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-237-71-J-M/R subject to the following conditions:

**STANDARD CONDITIONS**

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive

- dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.
  - (6) The license does not convey any property rights of any sort, or any exclusive privilege.
  - (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
  - (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
  - (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
  - (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
  - (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
    - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
      - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
      - b. pursuant to any other requirement of this license to perform stack testing.

- (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
  - (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such

monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

## SPECIFIC CONDITIONS

(16) Boilers #1, #2, #3 and #4

- (i) Boilers #1, #2, #3 and #4 shall fire #5 fuel oil with a sulfur content not to exceed 0.7% by weight, or cleaner fuel.
- (ii) Emissions from the boilers shall not exceed the following:

**Boiler Emission Limits**

	<b>Boiler #1 (lb/hr)</b>	<b>Boiler #2 (lb/hr)</b>	<b>Boiler #3 (lb/hr)</b>	<b>Boiler #4 (lb/hr)</b>
<b>PM</b>	0.64	0.64	1.26	1.26
<b>PM<sub>10</sub></b>	0.64	0.64	1.26	1.26
<b>SO<sub>2</sub></b>	3.9	3.9	7.72	7.72
<b>NO<sub>x</sub></b>	2.7	2.7	5.25	5.25
<b>CO</b>	0.18	0.18	0.35	0.35
<b>VOC</b>	0.01	0.01	0.02	0.02

Compliance shall be demonstrated on request of the Department through stack testing in accordance with the appropriate method found in 40 CFR Part 60, Appendix A.

- (iii) PM emissions from each boiler shall not exceed 0.12 lb/MMBtu.
  - (iv) Visible emissions from the combined stack of Boilers #1, #2, #3 and #4 (stack #1) shall not exceed 30% opacity on a 6 minute block average basis, except for no more than 3 six minute block averages in a 3 hour period.
- (17) Emergency Generators #5 and #6
- (i) Emergency Generators #5 and #6 shall each fire diesel fuel with a maximum sulfur content of 0.05% by weight.
  - (ii) Each emergency generator shall be limited to 150 hours per year of operation, based on a 12 month rolling total. An hour meter shall be operated and maintained on each emergency generator.
  - (iii) A log shall be kept documenting the dates, times and reason of operation each time either emergency generator is operated.
  - (iv) Emissions from Emergency Generators #5 and #6 shall not exceed the following:

**Emergency Generator Emission Limits**

	Emergency Generator #5		Emergency Generator #6	
	<u>(lb/MMBtu)</u>	<u>(lb/hr)</u>	<u>(lb/MMBtu)</u>	<u>(lb/hr)</u>
<b>PM</b>	0.12	0.44	0.12	0.67
<b>PM<sub>10</sub></b>	--	0.44	--	0.67
<b>SO<sub>2</sub></b>	--	0.19	--	0.29
<b>NO<sub>x</sub></b>	--	16.3	--	17.9
<b>CO</b>	--	3.52	--	4.76
<b>VOC</b>	--	1.30	--	0.46

- (v) Visible emissions from the stack of Emergency Generator #5 (stack #1) shall not exceed 30% opacity on a six minute block average basis, except for no more than 3 six minute block averages in a 3 hour period. Visible emissions from the stack of Emergency Generator #6 (stack #2) shall not exceed 30% opacity on a 6 minute block average, except for no more than 2 six minute block averages in a 3 hour period.
- (18) St. Joseph Hospital is limited to 250,000 gallons per year of #5 fuel oil, or cleaner fuel, based on a 12-month rolling total, and with a sulfur content not to exceed 0.7% by weight, to be used in Boilers #1, #2, #3 and #4. Compliance shall be demonstrated through fuel use records and receipts showing the sulfur content of the fuel.
- (19) St. Joseph Hospital shall pay the annual air emission license fee within 30 days of September 30 of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.



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Air Emission License**

(20) The term of this order shall be for five (5) years from the date of signature.

DONE AND DATED IN AUGUSTA, MAINE THIS \_\_\_\_ DAY OF \_\_\_\_\_ 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
BROOK E. BARNES, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: November 20, 2002

Date of application acceptance: December 2, 2002

Date filed with Board of Environmental Protection: \_\_\_\_\_

This order prepared by Rachel E. Pilling, Bureau of Air Quality